This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims:</u>

1.   (currently amended) A translation system comprising:

a computer system;

a workbench program executable on said computer system;

a writeable text data software application program executable on said computer
system, said writeable text data application program containing text data to
be translated, said text data comprising a text segment; and

a partial sentence translation application operable with said workbench program
and said writeable text data software application program, said partial
sentence translation application comprised of computer-readable code for
implementing the steps for:

determining that a word of said text segment has been previously translated
by comparing said word with a database containing previously
translated material;

determining whether a first phrase has been previously translated by
comparing said first phrase with <u>at least one phrase in</u> said database
containing previously translated material, wherein said first phrase

comprises said word and another word that is contiguous to said word in said text segment; and

displaying a partial sentence translation on said computer system, wherein said partial sentence translation is said first phrase if said first phase has been translated previously.

2.   (original) The translation system of claim 1, wherein said database of previously translated material is contained within said partial sentence translation memory.

3.   (canceled)

4.   (currently amended) The translation system of claim 1, wherein said database of previously translated material is contained within said workbench program.

5.   (canceled).

6.   (previously presented) The translation system of claim 1, wherein said partial sentence translation application ignores punctuation and capitalization.

7.   (original) The translation system of claim 1, wherein said text data is selected from a group consisting of words, phrases, characters, and symbols.

8.   (original) The translation system of claim 1, wherein said writeable text data software application program is selected from the group consisting of a word processor program, a spread sheet program, a presentations program, and any text program recognized by a computer.

9.   (original) The translation system of claim 1, wherein said text data is entered into said text data program using methods selected from the group consisting of typing, scanning, importing, FTP, and importing from a network program.

10.   (currently amended) A method for determining whether partial sentences of source text data have been previously translated, said method comprising the steps of:

executing a workbench program on a computer system;

executing a writeable text data application program on said computer system, said writeable text data application program capable of interfacing with said workbench program;

entering text data, written in a source language, into said writeable text data application program, said text data comprising at least one text segment;

identifying said text segment to be operated upon;

accessing a partial sentence translation memory from said computer, said partial sentence translation memory interfacing with said workbench program and said writeable application program;

determining that a word of said text segment has been previously translated by comparing said word with a database containing previously translated material ;

determining whether a first phrase has been previously translated by comparing said first phrase with <u>at least one phrase in</u> said database containing previously translated material, wherein said first phrase comprises said word and another word that is contiguous to said word in said text segment; and

displaying a partial sentence translation on said computer, wherein said partial sentence translation is said first phrase if said first phase has been translated previously.

11.   (previously presented) The method of claim 10, wherein said database of previously translated material is contained within one of (i) said workbench program and (ii) said partial sentence translation memory.

12.   (previously presented) The method of claim 10, wherein said database of previously translated material is continually updated.

13.   (canceled).

14.   (canceled).

15.   (canceled).

16.   (original) The method of claim 10, further comprising the step of storing said partial sentence translations in a database for later use.

17.   (original) The method of claim 10, wherein said database is stored in a permanent database on said computer system.

18.   (original) The method of claim 10, wherein said database is stored on a network.

19.   (currently amended) A computer program product for implementing within a computer system a method for determining whether partial sentences of source text data have been previously translated, said computer program product comprising:

>   a computer readable medium for providing computer program code means utilized
>
>>   to implement the method, wherein the computer program code means is
>>   comprised of executable code for implementing the steps for:
>>
>>   interfacing with a pre-existing workbench application program stored and
>>
>>>   executed on said computer system, said workbench application
>>>   program comprising at least one database of previously translated
>>>   material;
>>
>>   identifying a text segment existing within a writeable text data application
>>
>>>   program;

determining that a first word of said text segment has been previously

translated by comparing said first word with a database containing

previously translated material ;

determining whether a first phrase has been previously translated by

comparing said first phrase with <u>at least one phrase in</u> said database

containing previously translated material, wherein said first phrase

comprises said first word and another word that is contiguous to

said first word in said text segment; and

displaying a partial sentence translation on said computer, wherein said

partial sentence translation is said first phrase if said first phase has

been translated previously.

20.   (previously presented) The computer program product of claim 19, wherein said the first word is the last word in said text segment.

21.   (canceled).

22.   (canceled).

23.   (currently amended) A program storage device readable by a computer tangibly embodying a program of instructions executable by said computer to perform method steps for identifying partial sentences, existing within a text segment, that have been previously translated, said method comprising the steps of:

receiving text data of a writeable application program, said text data comprising at

least one text segment;

executing a partial sentence translation memory on said computer system;

interfacing said partial sentence translation memory with a workbench program;

and

operating on said at least one identified text segment, for the purpose of identifying

any partial sentences contained in said text segment that have been

previously translated, said operation completed by:

determining that a word of said text segment has been previously translated

by comparing said word with a database containing previously

translated material ;

determining whether a first phrase has been previously translated by

comparing said first phrase with <u>at least one phrase in</u> said database

containing previously translated material, wherein said first phrase

comprises said word and another word that is contiguous to said

word in said text segment; and

displaying a partial sentence translation on said computer, wherein said

partial sentence translation is said first phrase if said first phase has

been translated previously.

24.   (original) The method of claim 23, further comprising storing said partial sentence

translations in said at least one database for later use.

25.   (original) The method of claim 23, wherein said database of previously translated material is contained within said workbench program.

26.   (original) The method of claim 23, wherein said database of previously translated material is contained within said partial sentence translation memory.

27.   (canceled).

28.   (canceled).

29.   (canceled).

30.   (canceled).

31.   (currently amended) A computer readable memory medium including code for directing a computer to identify partial sentence translations, said computer readable memory medium comprising:

> means for controlling said computer to receive and process text data in a writeable application program, said text data intended for translation, said text data comprising a text segment;
>
> means for controlling said computer to identify at least a portion of said text data to define a text segment;

means for controlling said computer to execute a partial sentence translation

memory having at least one database of previously translated material;

means for controlling said computer to interface the said partial sentence translation

memory with a workbench program comprising at least one database of

previously translated material;

means for determining that a last word of said text segment has been previously

translated by comparing said last word with said database containing

previously translated material ;

means for determining whether a first phrase has been previously translated by

comparing said first phrase with at least one phrase in said database

containing previously translated material, wherein said first phrase

comprises said last word and another word that is contiguous to said last

word in said text segment; and

displaying a partial sentence translation on said computer, wherein said partial

sentence translation is said first phrase if said first phase has been translated

previously.

32.   (currently amended) A method for providing translation of text data, the method

comprising the steps of:

providing a workbench program that is executed by a computer;

receiving text data to be translated, wherein said text data includes a text segment;

determining that a word of said text segment has been previously translated by

comparing said word with a database containing previously translated

material;

determining whether a first phrase has been previously translated by comparing

said first phrase with at least one phrase in said database containing

previously translated material, wherein said first phrase comprises said

word and another word that is contiguous to said word in said text segment;

and

displaying a partial sentence translation on said computer, wherein said partial

sentence comprises said first phrase if said first phase has been translated.

33.   (previously presented) The method of claim 32, wherein said word is the last

word of said text segment.

34.   (currently amended) The method of claim 32, further comprising a step of

determining whether a second phrase has been previously translated by comparing said second

phrase with said database containing previously translated material, wherein said second phrase

comprises said first phrase and another word that is contiguous to said first phrase in said text

segment, and wherein said step of displaying a partial sentence translation on said computer

comprises displaying said second phrase if said first phrase has been translated and if said

another word that is contiguous to said first phrase in said text segment has been translated.

35.   (previously presented) The method of claim 32, wherein the step of displaying a partial sentence translation on said computer further comprises displaying a plurality of context options if said first phase has been translated in a plurality of contexts.

36.   (new) A method of identifying partial sentences have been translated before by comparing said partial sentences with a database of previously translated material comprising the steps of:

a)   numbering each word in a text segment from beginning to end with numbers 0 through T-1, wherein T is the number of words in the text segment;

b)   creating a list of partial sentences that occur in translation memory, each indexed by the number of its first word and the number of its last word, wherein the list is initially empty;

c)   creating a function P(n,m) which returns true if and only if the partial sentence starting with word n and ending with word m occurs in the database of previously translated material;

d)   setting a variable i to the value T, and a variable e to the value T-1;

e)   wherein, for each i, until i<0, decrementing i by 1 each time including the first time, performing the following steps:

e1)   if P(i,i) is not true, setting e to i-1, and continuing with step e by decrementing i by 1 and checking if i<0;

e2)   Otherwise, if e < i + 1, decrementing i by 1 and checking if i<0;

e3)   Otherwise, if P(i,e) is true, add the phrase starting with word i and ending with word e to the list created in step b, and decrementing i by 1 and checking if i<0;

e4)   Otherwise, set a variable high to the value e-1, and set a variable low to the value i+1, and set a variable e to the value i;

e5)   if low is less than or equal to high, perform the following steps:

e5a)   set a variable mid to the whole number low + (high-low)/2, rounding down (high-low)/2 if it is not a whole number;

e5b)   If P(i,mid) is true, set variable low to mid+1 and variable e to mid, checking if low is less than or equal to high;

e5c)   Otherwise, if P(i,mid) is not true, set variable high to mid-1, checking if low is less than or equal to high;

e6)   If high is less than low, add the phrase starting with word i and ending with word e to the list created in step b, decrementing i by 1, and checking if i<0; and

f)   If i<0, the list created in step b and augmented in steps e3 and e6 is a list of the longest partial sentences found in translation memory that begin with each word in the text segment.

37.   (new) A method of identifying if partial sentences have been translated before by comparing said partial sentences with a database of previously translated material comprising the steps of:

a)   numbering each word in the text segment from beginning to end with numbers 0 through T-1, where T is the number of words in the text segment;

b)   creating a list of partial sentences that occur in translation memory, each indexed by the number of its first word and the number of its last word, wherein the list is initially empty;

c)   creating a function P(n,m) which returns true if and only if the partial sentence starting with word n and ending with word m occurs in the database of previously translated material;

d)   set a variable i to the value -1, and variable b to the value 0;

e)   for each i, until i>T-1, incrementing i by 1 each time including the first time, performing the following steps:

e1)   if P(i,i) is not true, set b to i+1, and incrementing i by 1 and checking if i>T-1;

e2)   otherwise, if b > i - 1, continue with step e by incrementing i by 1 and checking if i>T-1;

e3)   otherwise, if P(b,i) is true, add the phrase starting with word b and ending with word i to the list created in step b, incrementing i by 1 and checking if i>T-1;

e4)   otherwise, set a variable high to the value i-1, set a variable low to the value b+1, and then set a variable b to the value i.

e5)   while low is less than or equal to high, perform the following steps:

e5a)   set a variable mid to the whole number low + (high-low)/2, rounding down (high-low)/2 if it is not a whole number;

e5b)   if P(mid,i) is true, set variable high to mid-1 and set variable b to mid, and checking if low is less than or equal to high;

e5c)   otherwise, if P(i,mid) is not true, set variable low to mid+1, checking if low is lessthan or equal to high;

e6)   once high is less than low, add the phrase starting with word b and ending with word i to the list created in step b, incrementing i by 1, and checking if i>T-1; and

f)   once i>T-1, the list created in step b and augmented in steps e3 and e6 is a list of the longest partial sentences found in translation memory that begin with each word in the text segment.

38. (new) The methods of claims 36 and 37, wherein words include individual characters used in particular written languages.

39. (new) A method of identifying partial sentences have been translated before by comparing said partial sentences with a database of previously translated material (called translation memory) in the following manner:

a)   Number each word in the text segment from beginning to end with numbers 0 through T-1, where T is the number of words in the text segment (ignoring punctuation).

b)   Start a list of partial sentences that occur in translation memory, each indexed by the number of its first word and the number of its last word, the list initially empty.

c)   Have a function P(n,m) which returns true if and only if the partial sentence starting with word n and ending with word m occurs in the database of previously translated material (called translation memory).

d)   Set variable i to the value T, and variable e to the value T-1.

e)   For each i, until i<0, decrementing i by 1 each time including the first time, do the following:

e1)   If P(i,i) is not true (i.e. if word i is not found in translation memory), set e to i-1, and continue with step e by decrementing i by 1 and checking if i<0.

e2)   Otherwise, if e < i + 1, continue with step e by decrementing i by 1 and checking if i<0.

e3)   Otherwise, if P(i,e) is true (i.e., the partial sentence beginning with word i and ending with word e is found in translation memory),

add the phrase starting with word i and ending with word e to the

list created in step b. Then continue with step e by decrementing

i by 1 and checking if i<0.

e4)   Otherwise, set variable high to the value e-1, variable low to the value i+1, and then set variable e to the value i.

e5)   While low is less than or equal to high, do the following:

e5a)   Set variable mid to the whole number low + (high-low)/2, rounding down (high-low)/2 if it is not a whole number.

e5b)   If P(i,mid) is true (i.e. the partial sentence beginning with the word i and ending with the word mid is found in

translation memory), set variable low to mid+1 and

variable e to mid. Then continue with step e5 by seeing if

low is less than or equal to high.

e5c)   Otherwise, if P(i,mid) is not true, set variable high to

mid-1. Then continue with step e5 by seeing if low is less

than or equal to high.

e6)   Once high is less than low (the test in e5 is false), add the phrase

starting with word i and ending with word e to the list created in

step b. Then continue with step e by decrementing i by 1 and

checking if i<0.

f)   Once i<0, the list created in step b and augmented in steps e3 and e6 is a

list of the longest partial sentences found in translation memory that begin

with each word in the text segment. Obviously, sub-phrases of each of the listed partial

sentences are also found in translation memory. Since some of these partial sentences are only

one word in length, some filter may be applied to restrict partial sentences to be displayed to

some reasonable subset, such as only partial sentences at least n words long including at least m

content words (words not in a specified list of non-content words that could contain prepositions,

pronouns, interjections and the like).

40.   (new) A method of identifying partial sentences have been translated before by

comparing said partial sentences with a database of previously translated material (called

translation memory) in the following manner (reverse of the method in claim x):

a)   Number each word in the text segment from beginning to end with numbers 0

through T-1, where T is the number of words in the text segment (ignoring punctuation).

b)   Start a list of partial sentences that occur in translation memory, each indexed by

the number of its first word and the number of its last word, the list initially empty.

c)   Have a function P(n,m) which returns true if and only if the partial sentence

starting with word n and ending with word m occurs in the database of previously translated

material (called translation memory).

d)   Set variable i to the value -1, and variable b to the value 0.

e)   For each i, until i>T-1, incrementing i by 1 each time including the first

time, do the following:

e1)   If P(i,i) is not true (i.e. if word i is not found in translation

memory), set b to i+1, and continue with step e by incrementing i

by 1 and checking if i>T-1.

e2)   Otherwise, if b > i - 1, continue with step e by incrementing i by 1

and checking if i>T-1.

e3)   Otherwise, if P(b,i) is true (i.e., the partial sentence beginning with

word b and ending with word i is found in translation memory),

add the phrase starting with word b and ending with word i to the

list created in step b. Then continue with step e by incrementing   i by 1 and checking if

i>T-1.

e4)   Otherwise, set variable high to the value i-1, variable low to the

value b+1, and then set variable b to the value i.

e5)   While low is less than or equal to high, do the following:

e5a)   Set variable mid to the whole number low + (high-low)/2,

rounding down (high-low)/2 if it is not a whole number.

e5b)   If P(mid,i) is true (i.e. the partial sentence beginning with

the word mid and ending with the word i is found in

translation memory), set variable high to mid-1 and

variable b to mid. Then continue with step e5 by seeing if

low is less than or equal to high.

e5c)   Otherwise, if P(i,mid) is not true, set variable low to

mid+1. Then continue with step e5 by seeing if low is less

than or equal to high.

e6)   Once high is less than low (the test in e5 is false), add the phrase

starting with word b and ending with word i to the list created in

step b. Then continue with step e by incrementing i by 1 and

checking if i>T-1.

f)   Once i>T-1, the list created in step b and augmented in steps e3 and e6 is a

list of the longest partial sentences found in translation memory that begin

with each word in the text segment. Obviously, sub-phrases of each of the listed partial

sentences are also found in translation memory. Since some of these partial sentences are only

one word in length, some filter may be applied to restrict partial sentences to be displayed to

some reasonable subset, such as only partial sentences at least n words long including at   least m

content words (words not in a specified list of non-content words that could contain prepositions,

pronouns, interjections and the like).

41.   (new) The methods of claims x or y, where characters are used instead of words,

for languages such as Chinese and Thai that do not use spaces to separate words.

42.   (new) A translation system comprising:

a computer system;

a workbench program executable on said computer system;

a writeable text data software application program executable on said computer

        system, said writeable text data application program containing text data to

        be translated, said text data comprising a text segment; and

a partial sentence translation memory application operable with said workbench

        program and said writeable text data software application program, said

        partial sentence translation memory application comprised of computer-

        readable code for implementing the steps for:

using an efficient algorithm to determine the set of all partial sentences of said text

        segment that have been translated before, each such partial sentence being

        represented by at least one instance of such translation in a database of

        translated material, where partial sentences are defined to be subsegments

        of said text segment at least 2 words in length; and

displaying said text segment so that a translator can see which words of said text

        segment belong to partial sentences at least n words long that have been

        translated before (where n is determined by the translator), and so that the

        translator can direct the system to display at least one instance of the

        longest partial sentence in said database of translated material that begins

        with any particular word in said text segment.